



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/740,345 | 12/18/2000 | Minoru Mukaida | F-6783 | 5183 |

7590
Jordan and Hamburg
122 East 42nd Street
New York, NY 10168

04/30/2003

EXAMINER

UHLIR, NIKOLAS J

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1773

DATE MAILED: 04/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

228

Office Action Summary

Application No.

09/740,345

Applicant(s)

MUKAIDA, MINORU

Examiner

Nikolas J. Uhler

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6,8,9 and 11-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) none is/are allowed.
- 6) ☒ Claim(s) 2-6,8,9 and 11-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This office action is response to the amendment/arguments filed by the applicant on 3/04/03. The applicant's amendment is sufficient to overcome the prior 112 rejections. Accordingly, these rejections are hereby withdrawn. However, the applicant's amendment/arguments are not deemed to overcome the prior art, as will be explained below in the section entitled, "Response to Arguments."

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recites the limitation "said solution forming agent" in the 3rd line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 2-6, 8-9 and 11-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Craven (US3878147) in view of The Encyclopedia of Polymer Science, Vol. 3, November 1985, pg. 552.

6. Copies of the Craven reference and the Encyclopedia reference accompanied a prior office action and so have not been included with this office action.

7. Regarding the limitations of claim 2, wherein the applicant requires an article improved in energy consumption efficiency having a contact surface to be brought into contact with a surface of a support, and a thin film formed on the contact surface by application of an energy consumption efficiency improving agent comprising a mixture of a flexible polymer binder and a solvent capable of diluting the binder, including a solvent which dilutes the binder by colloid formation, said efficiency improving agent being applied to the article in the form of a thin film having a viscosity of 100,000cp or less and a thickness of 10 μ m or less, and wherein a base material of the polymer is at least one selected from the group consisting of polyethylene; a methyl, phenyl, chloro, hydroxy, acetoxy, or cyano derivative of polyethylene; polybutadiene; a methyl or chloro derivative of polybutadiene; a copolymer of the polyethylene derivative and the butadiene derivative; silicone; polysulfide; polyurethane; modified silicone; modified epoxy resin; and modified acrylic resin which are generated by condensation action of an external substance during adhesion; and a solvent is selected from the group consisting of methyl alcohol, denatured ethyl alcohol, isopropyl alcohol, propyl alcohol, acetic acid, and cyclohexane.

8. The limitations "by application of an energy consumption efficiency improving agent comprising a mixture of a flexible polymer binder and a solvent capable of diluting the binder, including a solvent which dilutes the binder by colloid formation," and "which are generated by condensation action of an external substance during adhesion" in claim 2 are product by process limitations and do not appear to be further limiting in so far as the structure of the product is concerned. "[E]ven though product-by-process

claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. The applicants claimed "film having a viscosity of 100,000 cp or less" could have been made from a different process that does not require the use of a solvent that dilutes the binder by colloid formation, such as a process utilizing a solvent which dilutes the binder by dissolving the binder in solution. Furthermore, the applicants claimed film having a viscosity of 100,000cp or less could have been made by generating the polymer binder via another method other than the condensation of an external substance during adhesion. For example, the polymer could have been generated by, free radical polymerization, photo polymerization or through the use of a catalyst to arrive at the claimed film having a viscosity of 100,000 cp or less.

9. Regarding these limitations, Craven teaches a composition that is used to increase the friction of surfaces on ice, particularly the surfaces of automobile and truck tires (column 1, lines 5-8). The composition is a mixture of a binder and fine particles that possesses excellent adherence to rubber substrates and provides a high level of friction on icy roads (column 1, lines 21-25). The composition comprises 5-25% by weight of a soluble elastomer, 43-92.99% by weight of a solvent for the elastomer, and 2-20% by weight of dispersed inorganic particles having a particle size of about .2-105

μm. Craven teaches that suitable elastomers for the coating composition include polyurethane, as well as a number of other elastomers.

10. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to select polyurethane as the flexible polymeric binder, as polyurethane is taught by Craven to be equivalent to the other binders listed.

11. Regarding the specific solvent required by claim 2, while the examiner maintains that the solvents required are part of a product by process limitation, it is noted that Craven teaches that suitable solvents include cyclohexane, methyl ethyl ketone, toluene, hexane, and other known solvents (column 1, lines 45-column 2, lines 7).

12. Therefore it would have been obvious to one of ordinary skill in the art at the time to select cyclohexane to be the solvent utilized by Craven, as cyclohexane is taught to be equivalent to the other solvents listed as suitable for this purpose.

13. Regarding the thickness requirement in claim 2. Craven teaches that the composition is typically applied to a substrate via brushing, spraying, or dipping and that the resultant film has a thickness of "about" .5-5 mils (column 2, lines 63-69). It is the examiners position that "about .5 mils" encompasses .4 mils, which is equivalent to applicants claimed 10μ. Thus, Craven meets this limitation. Further, it is noted that Craven teaches that a film that is 1-2 mils thick will typically remain on the tire for 5-10 miles, depending on road conditions (column 3, lines 13-15). It is the examiners position that the thickness of the film is a result effective variable, with a thinner film remaining on the tire for shorter distances, and vice versa.

Art Unit: 1773

14. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to control the thickness of the Craven film to suit the distance to be traveled. Shorter distances would require a thinner coating, thereby conserving material.

15. Regarding the viscosity requirements in claim 2. Craven does not specifically teach these limitations. However, it is noted that Craven does teach the application of the coating via various methods, including brushing, dipping, spraying etc... (column 2, lines 63-68).

16. Further, The Encyclopedia of Polymer Science, Vol. 3, November 1985, pg. 552 teaches common coating methods and the viscosity range of compounds that are coated utilizing those methods. From this disclosure, the examiner takes the position that the viscosity of the coating is a results effective variable. It would have been obvious to one with ordinary skill in the art to optimize the viscosity of the coating Craven to meet the requirements of the coating method to be utilized.

17. Regarding the limitations of claim 3, wherein the applicant requires the flexible polymer binder to adhere to organic material an inorganic material and has a viscosity of 100,000cp or less, and said solvent is present in an amount resulting in the viscosity of the mixture to be 100cp or less.

18. All of the limitations of claim 3 are product by process limitations that do not appear to be further limiting in so far as the structure of the product is concerned. In the instant case, the applicants claimed "film having a viscosity of 100,000 cp or less" could have been made by another process that does not utilize a polymer binder having a

Art Unit: 1773

viscosity of 100,000 cp or less that has been diluted with a solvent to a viscosity of 100cp or less. For example, the film could have been made by coating a substrate with a solution comprising a polymer binder having a viscosity <100,000cp and a solvent sufficient to render the viscosity of the solution >100cp. The applicant is referred to section 6 above for the appropriate case law.

19. Regardless of whether the limitations of claim 3 are product by process, in light of the teachings of the The Encyclopedia of Polymer Science, stated above, the examiner takes the position that it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the viscosity of the polymer binder and the solution in order to meet the requirements of the coating method to be utilized.

20. Regarding the limitations of claim 4, wherein the applicant requires the efficiency improving agent to further comprise an antislipping agent comprising fine particles of an average diameter of 10 μ m or less. These limitations are met as set forth above for claim 2, as Craven teaches the addition of particles having an average diameter in the range of 0.2-105 μ . As 0.2 μ is completely encompassed by the applicants claimed range, this limitation is met.

21. Regarding the limitations of claim 5, wherein the applicant requires the base of the polymer binder to comprise one of the materials listed. This limitation is met as set forth above for claim 2, as Craven teaches the use of polyurethane as a suitable binder.

22. Regarding the limitations of claim 6, wherein the applicant requires the base material to be selected from silicone; polysulfide; polyurethane; modified epoxy resin; and modified acrylic resin which are generated by condensation action of an external

substance during adhesion. These limitations are product by process limitations that do not appear to be further limiting insofar as the structure of the product is concerned.

Polymers having identical functional groups as the polymers utilized by the applicant could have been produced by another method other than condensation polymerization, such as photo polymerization or catalytic polymerization. The applicant is referred to the section above discussing product by process limitations for the specific case law.

23. Regarding the limitations of claim 8, wherein the applicant requires the antislipping agent to comprise a finely particulate inorganic material mainly comprised of silicon oxide, aluminum oxide, cerium oxide, silicon carbide, or a fine particulate organic material. Craven teaches that a suitable material for the particulate material include aluminum oxide, silica (synonymous with silicon oxide), silicon carbide, and other inorganic particles (column 2, lines 8-22).

24. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to select silica particles as the particulate material utilized by Craven, as silica is recognized as equivalent to the other materials listed as suitable for this purpose.

25. The limitations of claim 9 require a nominal method that merely requires the application of the mixture recited by any one of claims 2-6 and 8 to a substrate. The limitations of this claim are met as set forth above for claim 2.

26. Regarding claim 11, wherein the applicant requires the substrate to be a tire for a vehicle or footwear. This limitation is met as set forth above for claim 2.

27. Regarding the limitations of claim 12, wherein the applicant requires the mixture to contain 1.42%-1.58% by weight flexible polymer binder and 94.81%-98.5% by weight solution forming agent. These limitations are product by process limitations that do not appear to be further limiting insofar as the structure of the product is concerned, as the polymer film of the product will contain far less solvent than the original solution, as the solvent will evaporate over time. Thus, the final product could have been made by another process that coats a substrate with a solution that contains more or less solvent than that required by claim 12. The applicant is referred above for the appropriate case law.

28. Further, it is well known in the art of coating technology that the viscosity of a solution can be controlled by the amount of solvent in the solution, with a solution containing more solvent being less viscous than a solution containing less solvent. Thus, the amount of solvent in the mixture is a results effective variable.

29. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the amount of solvent in the solution of Craven in order to obtain a solution having a desired viscosity.

30. Regarding claim 13, wherein the applicant requires the mixture to contain between 0-3.77% by weight of an antislipping agent. This limitation is a product by process limitation that does not appear to be further limiting insofar as the structure of the product is concerned. The weight % concentration of the antislipping agent in the mixture will necessarily be lower than the weight % concentration of the antislipping agent in the final product, as the final product will necessarily contain less solvent than

Art Unit: 1773

the mixture, as a result of evaporation. The final product film could have been made by another process, such as coating the substrate with a film containing no antislipping agent and then adding the antislipping agent into the film after coating.

31. Regardless of whether the limitations of claim 13 are product by process, Craven teaches that 2-20% by weight of an dispersed particles are added to the solution, as set forth above for claim 2. Thus, the limitations of claim 13 are met.

32. Regarding claim 14-16, wherein the applicant requires the viscosity of the thin film to be within one of the claimed ranges. The examiner maintains that the viscosity of the thin film is a results effective variable as set forth above for claim 2, wherein it is stated that it would have been obvious to one of ordinary skill in the art at the time the invention was made to control the viscosity of the polymer binder to meet the requirements of the coating method utilized.

33. Regarding claims 17-19, wherein the applicant requires the film to be within one of the specified thickness ranges. These limitations are met as set forth above for claim 2, as the examiner has established that the thickness of the coating is a results effective variable.

34. Regarding claims 20-22, wherein the applicant requires the viscosity of the mixture to be within the claimed ranges. These limitations are met as set forth above for claims 2 and 12, as it has been established that one of ordinary skill in the art would have found it obvious to control the amount of solvent in the solution to control the viscosity. Further, these limitations are product by process limitations that do not appear

to be further limiting insofar as the structure of the final product is concerned for the same reasons as set forth above for claim 2.

35. Regarding the limitations of claim 23-25, wherein the applicant requires the average particle diameter of the anti-slipping agent to be between 10nm-10 μ m (claim 23), specifically 10nm-1 μ m (claim 24), still more specifically 10nm-100nm (claim 25). Craven teaches that the particle size of the inorganic filler mater is "about 0.2-105 μ m" (column 2, lines 17-18). It is the examiners position that "about" .2 μ m encompasses .1 μ m, and thus reads on the limitations of claims 23-25.

36. Regarding claim 26, wherein the applicant requires the external substance of claim 6 to be water. As set forth above for claim 6, the requirment that the polymer binder be "generated by condensation action of an external substance" is a product by process limitation that does not appear to be further limiting insofar as the structure of the product is concerned. A polymer having identical characteristics to that of the claimed polymer binder could have been formed by another method, such as photo polymerization or catalyzed polymerization.

37. Claim 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Craven as modified by The Encyclopedia of Polymer Science as applied to claim 2 above, and further in view of Sakai et al. (US4501808).

38. Craven fails to teach an energy consumption efficiency improving agent utilizing isopropyl alcohol as the solution forming agent, as required by claim 27.

39. While the examiner maintains that the requirement of a specific solvent is a product by process limitation that does not appear to further limit the structure of the

Art Unit: 1773

product as set forth above for claim 1, for the purpose of completeness it is noted that Craven does teach utilizing solvent such as methyl ethyl ketone, acetone, methylene chloride, and carbon tetrachloride as suitable solvents for dissolving for elastomer such as polyethylene, styrene-butadiene's, etc... (column 1, lines 50-column 2, line 7)

40. Further, Sakai et al. teaches coating composition that comprises a binder material and a solvent, wherein the binder is selected from materials such as styrene butadiene's, polyethylene, and other materials, and the solvent is selected from methyl ethyl ketone, isopropyl alcohol (isopropanol), acetone, methylene chloride, and carbon tetrachloride (column 23, line 65-column 4, line 35).

41. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize isopropyl alcohol as the solvent in Craven.

42. One would have been motivated to make such a modification due to the teaching in Sakai et al. that Isopropyl Alcohol is equivalent to methyl ethyl ketone, Isopropyl alcohol, acetone, ethylene chloride, and carbon tetrachloride as a solvent for many of the same binder resin materials disclosed in Craven, specifically polyethylene and styrene-butadiene's.

Response to Arguments

43. Applicants arguments dated 3/04/03 have been considered but are not persuasive. In the instant case, the applicant tendered the following arguments (summarized):

- The improvements contributed by the applicants coating are dependent on 2 primary conditions which are not taught by Craven, namely a thickness of a film that is less than 10 μ , and a viscosity of the polymer film making up the film being less then 100,000cp. Of these conditions, the most

Art Unit: 1773

critical is the thickness limitation, in light of the applicants discovery that the thinner the film the greater the energy conservation. Further, the encyclopedia reference does not teach anything that would lend one of ordinary skill in the art to decrease the film thickness below the maximum 12.7μ disclosed by Craven to the applicants claimed 10μ maximum and that with regards to optimization, it is not the method of application that is important but the results obtained in terms of energy consumption efficiency. The argument that to optimize the thickness of the film to suit the distance to be traveled would be obvious to one of ordinary skill in the art is not valid because the desired result is different with the applicants disclosed articles as compared to those of Craven. As these applicants purpose is not disclosed or suggested in Craven, one of ordinary skill in the art would not be led to alter Cravens method so as to arrive at the applicant's conditions.

- The assertions in paragraph 8 and 26 of the prior office action the limitations "which are generated by condensation action of an external substance such as water do not appear to be further limiting as far as the structure of the product is concerned are respectfully traversed. It is submitted that the ability of an external substance such as water to affect the polymerization and therefore the degree of adhesiveness of certain polymers is well known in the art so that such limitations act to identify specific subgroups of polymers within certain categories and the questioned limitations are therefore significant when included in a patent claim.
- Although Craven teaches the use of a solution of Kraton which has a viscosity of 400cp, this teaching is not believed to render obvious the applicants claimed maximum solution viscosity of 100cp as required by claim 3 or lower viscosities in claims 20-22. Furthermore, this difference cannot be explained away by the disclosure in the encyclopedia reference of various coating methods and ranges of viscosity of such coatings on the grounds that viscosity is a results effective variable.

- Craven does not teach the applicants claimed average particle size, and the mere recitation that particles as low as $.2\mu$ can be contained in the film, the preferred size is 10-44 microns, suggesting an average particle size much higher than that of the applicants claimed invention.
- The rejection of claim 27 is traversed in light of the fact of the extreme differences between the coating of Craven and that of Sakai. One of ordinary skill in the art would not have looked to Sakai to disclose suitable solvents for the film disclosed in Craven.

44. These arguments are not persuasive. Regarding applicants arguments with respect to the thickness of the Film disclosed by Craven. The examiner acknowledges that Craven only teaches that the thickness of the film is "about .5mils" which is equivalent to 12.7μ . However, it has been held that In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). Further, the court has ruled that a claim reciting a thickness of a protective layer as falling within a range of "50 to 100 Angstroms" was considered prima facie obvious in view of prior art reference teaching that "for suitable protection, the thickness of the protective layer should be not less than about 10 nm [i.e., 100 Angstroms]." The court stated that "by stating that suitable protection' is provided if the protective layer is about' 100 Angstroms thick, [the prior art reference] directly teaches the use of a thickness within [applicant's] claimed range."). In re Geisler, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997). Thus, the courts have upheld that terminology such as "about X" includes X and values slightly above and below X. The examiner maintains that "about .5mils" recited by Craven, includes .4mils, which is equivalent to 10μ and thus meets the bulk of applicants claims regarding to thickness.

Art Unit: 1773

45. With respect to the applicants argument that the argument that the film thickness of Craven is a results effective variable is not valid in light of the fact that the reasons for optimizing the thickness are not the same, this argument is not persuasive. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

46. With respect to the applicants argument relating to the generation of the polymer binder via condensation of an external substance. While the examiner realizes that the requirement that the polymer film be formed by condensation action of an external substance during adhesion imparts some structural characteristics to the flexible polymer binder in solution, the examiner maintains that the final product film could be made by another method other than condensation polymerization. This is clearly evidenced in particular by the first polymer recited for the polymer binder, which is polyethylene. Polyethylene can be polymerized in many ways, including condensation polymerization as asserted by the applicant, and free radical polymerization. The end product of either process is the same, namely polyethylene. The applicants are respectfully reminded that claims toward a product are predicated upon the structure of the final product, not by the manner in which the final product was made. Applicants, claims are directed towards a polymer coating on a substrate. It has not yet been established that forming a polymer coating via condensation polymerization results in a

coating that is different structurally than a polymer formed by free radical polymerization. Thus, this argument is not persuasive.

47. Regarding applicant's argument that the difference between the solution viscosity disclosed by Craven and that of the applicant cannot be explained away as a results effective variable in light of the showing by the encyclopedia reference of various coating methods and suitable viscosities for solutions utilizing those methods. The examiner respectfully disagrees. It has been held that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Further, the courts have stated that a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). The encyclopedia reference clearly shows how the viscosity of a solution impacts the methods that can be utilized to coat that solution onto a substrate. Thus, the examiner maintains that the viscosity of the solution and the polymer is a result effective variable that would have been obvious to one of ordinary skill in the art to optimize to meet the coating method desired. Furthermore, the applicants arguments related to the viscosity of the solution are moot, as this argument is directed towards properties of a solution used to form a final product, and thus is a product by process limitation.

Art Unit: 1773

48. Regarding applicants arguments as to the differences between the particle size of Craven and the particle size claimed by the applicant. The applicant is respectfully directed to claim 4, which states "**comprises** an antislipping agent **comprising** fine particles of an average diameter of 10 μ m or less." The phrase "comprising fine particles" is open language that allows for particles having sizes larger than those required to be present in the film. Thus, the limitations of claim 4 and subsequent claims dependent on claim 4 merely require the presences of "some" fine particles having the requisite average diameter. The recitation in Craven of the use of particles that are about 0.2-105 microns meets these limitations, as it would be obvious to one of ordinary skill in the art to utilize at least some particles having the applicants claimed average diameter.

49. With respect to the applicants arguments as to the rejection of claim 27 over Craven and Sakai. While the applicants argument is largely moot in light of the fact that the specific solvent utilized in the energy consumption efficiency improving agent is part of a product by process limitation, the examiner merely utilized Sakai to show that various solvents for polymers similar to those utilized in Craven were known, and to show the equivalence of these solvents to those disclosed in Craven. The applicant is respectfully reminded that substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. *In Re Fount* 213 USPQ 532 (CCPA 1982); *In Re Siebentritt* 152 USPQ 618 (CCPA 1967); *Grover Tank & Mfg. Co. Inc V. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

Conclusion

Art Unit: 1773


50. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700

704
4/29/03